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10/681,591	10/07/2003	Jeremy B. Gaylord	42P5311D	7170

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EXAMINER	
KHOKHAR, ASIF I	
ART UNIT	**PAPER NUMBER**
2609	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/681,591	**Applicant(s)** GAYLORD, JEREMY B.	
	Examiner Asif Khokhar	**Art Unit** 2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 8-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 11 and 12 is/are allowed.

6)☒ Claim(s) 8-10 and 13-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 07 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim(s) 8-22 are considered for examination by the examiner.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim(s) 13 is/are rejected under 35 U. S. C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 13 defines a computer readable medium having a computer program, the computer program being executable by a machine. However, the claim does not define a machine and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" - Guidelines Annex

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim(s) 8-10 and 12-22 rejected under 35 U.S.C. 102(e) as being anticipated by Heller et al US patent 6396539.

With reference to claim 8, Heller '539 discloses a method of tracking images, which comprises, placing an image sensor (integrated circuit imaging device 10 formed from a CMOS process, column 3, line 54) in a image capturing device (image system 100, column 3, line 24), said image sensor having a plurality of modified transistors, said plurality modified to form an identifier (since image device 10 is an integrated circuit which must be modified; further CMOS made out of photo-transistor; all image sensor come with some defective pixels which are consider as identifier for examining purposes. Referring to FIG. 2, programmable memory 14 includes a storage location for defective pixel location information 32. In a preferred embodiment, defective pixel location information 32 contains a table of the coordinates of the defective pixels located in sensor array 12. As described below, sensor array 12 is tested during manufacture to determine the defective pixels located therein, so as to determine the location of all defective pixels located in sensor array 12, column 7, line 49. Furthermore, Programmable memory 14 includes an array of individual memory locations for storing security/identification values for sensor array 12. When sensor array 12 is assigned with an identification number, programmable memory 14 uses an identification storage 24 for storing identification values. Depending upon the implementation, each identification value may be 16 bits, 32 bits, etc. The choice of the number of bits for each identification value depends upon the desired level of security, column 4, line 49. Which clearly indicates that defective pixel location is store as coordinates which assign a pixel ~~sensor~~ an identification number which stores in storage 24); capturing an image with said image capturing device (FIG. 4 is a flowchart summarizing the above-described method for operating integrated circuit imaging device 10 in capturing an image, column 6, line 50); processing said image such that said identifier is extracted from said image (Controller unit 16, depending upon the configuration, can perform one of a wide variety of image processing operations including, for example, pattern recognition operations, filtering operations, Fourier transform operations, and the like, column 4, line 23; Filtering operations can include extracting image identifier from the image.)

With reference to claim 9, Heller '539 discloses that image capturing device is a digital camera (a digital camera, column 3, line 41.)

With reference to claim 10, Heller '539 discloses that image capturing device is a video camera (a video camera, column 7, line 41.)

With reference to claim 13, Heller '539 discloses a computer readable medium having embodied thereon a computer program (a programmable non-volatile memory for storing defective pixel location information, column 2, line 43), the computer program being executable by a machine to perform (a controller unit for interfacing with the programmable non-volatile memory and accessing the defective pixel location information, column 2, line 45): processing data from an image capturing device; extracting an identifier from said data (Controller unit 16, depending upon the configuration, can perform one of a wide variety of image processing operations including, for example, pattern recognition operations, filtering operations, Fourier transform operations, and the like, column 4, line 5; a digital camera column 3, line 41 is an image capturing device and filtering operation can extract identifier from data); assembling an image from said data (Imaging system 100 has an optical system 130 that channels the incident light to create an optical image, column 3, line 27); and storing said identifier and said image (Imaging system 100 may also contain local storage 128 of the non-volatile variety, for instance including a solid state memory such as a removable memory card, a rotating magnetic disk device, or other suitable memory device for permanent storage of digital image data, column 3, line 45; and Programmable memory 14 includes an array of individual memory locations for storing security/identification values for sensor array 12, column 4, line 49.)

With reference to claim 14, Heller '539 discloses that extracting an identifier (Controller unit 16, depending upon the configuration, can perform one of a wide variety of image processing operations including, for example, pattern recognition operations, filtering operations, Fourier transform operations, and the like, column 4, line 5; a digital camera column 3, line 41 is and image capturing device and filtering operation can extract identifier from data) further comprises: reading values of a known subset of pixels from said data; and assembling said values into an identifier (Programmable memory 14 includes an array of individual memory locations for storing security/identification values for sensor array 12. When sensor array 12 is assigned with an identification number, programmable memory 14 uses an identification storage 24 for storing identification values, column 4, line 49. In order to store some information, controller must be able to read it first.)

With reference to claim 15, Heller '539 discloses interpolating a new pixel value for each pixel storing a piece of said identifier; and replacing original pixel value for each of said pixels with a new pixel value (In step 84, compensation pixel values are generated to replace the missing data from the defective pixels in sensor array 12. In one preferred embodiment, the compensation pixel values are generated by examining the pixel values of the pixels surrounding the defective pixels. Thus, the pixel values of each surrounding pixels of a defective pixel are averaged to arrive at a compensation pixel value. In another embodiment, the pixel value of a pixel that precedes the defective pixel is used as the compensation pixel value, column 8, line 57; Compensation pixel value is interpolation and compensation value does replaces the old pixel value. Since defective pixel are averaged to arrive at a compensation pixel value, it does contain piece if identifier: defective pixels.)

With reference to claim 16, Heller '539 discloses storing said identifier and said image comprises placing said identifier and said image into a image frame and saving said image frame

(In step 84, compensation pixel values are generated to replace the missing data from the defective pixels in sensor array 12. In one preferred embodiment, the compensation pixel values are generated by examining the pixel values of the pixels surrounding the defective pixels. Thus, the pixel values of each surrounding pixels of a defective pixel are averaged to arrive at a compensation pixel value. In another embodiment, the pixel value of a pixel that precedes the defective pixel is used as the compensation pixel value. In step 86, a new image is created with the appropriate compensation pixel values in the locations where the respective defective pixels are located. In an alternate embodiment, a separate list having the compensation pixel values are sent along with the uncorrected image to allow the use of other defective pixel correction processes, column 8, line 57. When an image is being created (image frame) in step 86, it inherently include the value of defective pixels (identifier) because compensation value is made out of old pixel value.)

With reference to claim 17, Heller '539 discloses that image capturing device is a digital camera (a digital camera, column 3, line 41.)

With reference to claim 18, Heller '539 discloses that a digital processing system having a processor operable to perform a method, which comprises, processing data from an image capturing device; extracting an identifier from said data ((Controller unit 16, depending upon the configuration, can perform one of a wide variety of image processing operations including, for example, pattern recognition operations, filtering operations, Fourier transform operations, and the like, column 4, line 5; a digital camera column 3, line 41 is an image capturing device and filtering operation can extract identifier from data); assembling an image from said data (Imaging system 100 has an optical system 130 that channels the incident light to create an optical image, column 3, line 27); and storing said identifier and said image(Imaging system 100 may also contain local storage 128 of the non-volatile variety, for instance including a solid state memory such as a removable memory card, a rotating magnetic disk device, or other suitable memory device for permanent storage of digital image data, column 3, line 45; and Programmable memory 14 includes an array of individual memory locations for storing security/identification values for sensor array 12, column 4, line 49.)

With reference to claim 19, claim 19 contains same subject matter as discussed above in claim 14.

With reference to claim 20, claim 20 contains same subject matter as discussed above in claim 15.

With reference to claim 21, claim 21 contains same subject matter as discussed above in claim 16.

With reference to claim 22, claim 22 contains same subject matter as discussed above in claim 17.

Allowable Subject Matter

2. Claim(s) 11-12 is/are allowed.

The prior art in record fails to suggest or discloses:

With reference to claim 11, An apparatus for capturing images, said apparatus comprising: a lens, said lens for controlling amount of light entering said apparatus; an image sensor having a plurality of transistors, said transistor for creating electrical currents in proportion to an intensity of light received, and said sensor having an identifier embedded within a subset of said transistors in combination of other elements.

Heller US6293463 discloses the similar concept for image-tracking.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asif Khokhar whose telephone number is (571) 270-3221. The examiner can normally be reached on Monday- Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Ho can be reached on 571 272 7365. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

TUAN HO
PRIMARY EXAMINER

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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TUAN HO
PRIMARY EXAMINER